

FLIGHT

The
AIRCRAFT
ENGINEER
AND
AIRSHIPS

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 803. (No. 20, Vol. XVI.)

MAY 15, 1924

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C. 2

Telegrams: Truditor, Westcent, London. Telephone: Gerrard 1828

Annual Subscription Rates, Post Free:

United Kingdom ... 30s. 4d. Abroad ... 33s. 0d.*
These rates are subject to any alteration found necessary under abnormal conditions and to increases in postage rates

* European subscriptions must be remitted in British currency

CONTENTS

	PAGE
Editorial Comment	
Resumption of Flying	271
The Fiat "C.R." "R.S." and "B.R." Biplanes	273
Progress in the Big Flights	275
Air Ministry Notices	276
Navy League and the Fleet Air Arm	276
America—Today and Tomorrow	276
The Ehrlich V	277
Light 'Plane and Glider Notes	278
The Future of Aviation in Britain. By Capt. W. H. Sayers	279
Personals	280
At Wembley	280
Royal Air Force	281
R.A.F. Intelligence	281
In Parliament	281
Air Post Stamps	282
Society of Model Aeronautical Engineers	282

EDITORIAL COMMENT.



FLYING from Croydon to the various places on the Continent served by British air lines is now being resumed, after having been held up for many weeks—since April 1, in fact—owing to the unfortunate dispute between the pilots of the four air lines that were in operation previous to that date and the newly-formed Imperial Airways, Ltd. So far as can be gathered, the dispute has been arranged to the satisfaction of everyone concerned, and the last stumbling-block to an agreement has apparently been removed by the appointment, announced in FLIGHT last week, of Major Brackley to the post of Air Superintendent. Major Brackley will decide, it is understood, whether a pilot is to fly on any given day and on any given machine. Major Brackley should be singularly qualified for his new post, as he is a pilot of very long experience, and is, personally, very popular among pilots, whose confidence he will undoubtedly have. We do not know whether Major Brackley includes among his many accomplishments that of being omnipresent, otherwise it is a little difficult to see how he can decide simultaneously whether the weather is fit for flying at Paris or Brussels, or Havre, or Amsterdam. If he is not so gifted, probably Imperial Airways, Ltd., will have to allow pilots to use their own judgment as to the carrying-out of their return journeys. Which suggests that it is difficult to see wherein the responsibility of making a decision as to outward trips should be more difficult than that relating to homeward ones.

However, the main point is that the long delay in getting going has now come to a close, and that presumably within a few days the new company will have started all round in real earnest. That being so, it seems opportune to consider what effect the amalgamation of the four pioneer firms into one monopoly company may possibly have on the future development of commercial aviation. In the first place, the effect of a monopoly company—and a monopoly company it is, however suggestive this

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

May 31–June 9 Third Czecho-Slovak International Aeronautical Exhibition, Prague
June 15 Gordon Bennett Balloon Race, Belgium.
June 21 F.A.I. Conference Opens, Paris.
July 24–Aug. 10 Tour de France for Light 'Planes.
Aug. 4 Aerial Derby at Lympne
Sept. 8–13 Light 'Plane Competitions at Lympne

INDEX FOR VOL. XV.

The Index for Vol. XV of FLIGHT (January to December, 1923) is now ready, and can be obtained from the Publishers, 36, Great Queen Street, Kingsway, W.C. 2. Price 1s. per copy (1s. 1d. post free).

designation—usually is calculated to stifle competition. By agreement the Air Ministry is prevented from giving financial assistance to any firm other than Imperial Airways, Ltd., for the purpose of commercial air lines. On the face of it this might seem a wholly evil thing, but in practice it is doubtful if any great harm will result. There is always the possibility that some enterprising firm may develop machines, and an organisation more efficient than those of the monopoly company, and may start out wholly on its merits to run an independent line. Something of the sort is already in the making in the case of the Liverpool-Belfast service. While the Air Ministry is not at liberty to subsidise any such undertaking, there is, as far as we understand the agreement, nothing to prevent the Air Ministry from saying that where an independent company is already satisfactorily operating a line, the Imperial Airways, Ltd., are not to come along and force the unsubsidised company out of existence by cutting rates. We are not for a moment suggesting that any such idea exists in regard to the Liverpool-Belfast line, which is mentioned merely as an example of private enterprise, and which may, and we hope will, be duplicated in many other directions. It would obviously be grossly unfair if the taxpayers' money were devoted to force out of existence any private enterprise which was managing to pay its way without official assistance. So long as the machines conform to Air Ministry safety requirements, and the operating personnel is duly licensed, the Government should refrain from interfering in any way. Not only so, but such assistance as meteorological information, etc., should be given freely when asked for. It would be doubly assuring if the Air Minister were to let it be known that in such cases he will not allow the monopoly company to interfere by using the advantages which its position as a monopoly company confers upon it.

Then there is the question of the routes to be developed. Undoubtedly the policy of the new company should be to develop and extend existing routes so as to give full scope to the advantages which air transport over long distances has to offer. In this connection, it should be mentioned that before this can be done effectively it is essential that night-flying be made possible. The imperative necessity of doing this may be illustrated by the wonderful feat of Lieut. Pelletier d'Oisy, to which attention was called in these columns last week. All the world marvels at the grit and determination of the plucky French aviator, who has been making history by his flight to the East. He has, it is admitted on all sides, done marvellously well, covering long distances without landing and keeping on day after day in very trying weather conditions. Yet rests were necessary, and overhaul of machine and engine. The result is that, as stated last week, d'Oisy's average speed between Paris and Calcutta

works out at a little under 22 miles per hour. This is, roughly, the speed of a modern fast liner. Now it is agreed that no man could have done better than has "Pivolo." Yet for all that the journey is not extraordinarily rapid, counted on time lapsed since his leaving Paris. If, for the sake of argument, Pelletier d'Oisy had been carrying urgent dispatches, the only way in which these could have been sent definitely quicker than by existing means would be by having a relay of machines, one-half of which made night journeys and the other half day journeys. In this manner it is conceivable that the average speed could be increased to 50 miles per hour or possibly even more. The illustration appears to present the case for night-flying very well. For the carrying of passengers it appears at present doubtful whether any ordinary traveller could stand the strain of travelling for 48 hours at a stretch, even with the brief respite gained while changing machines. Certainly, unless engines can be made a great deal more silent than they are at present, we doubt if any ordinary passenger would care to endure such long spells of air travel. It therefore seems that either a start will have to be made with mails (and General Williamson, of the G.P.O., has stated on several occasions that night-flying was essential to the Post Office), or machines of a very much more comfortable nature than those hitherto used will have to be evolved.

The use of seaplanes, and the development of new seaplane routes, is a subject on which we have repeatedly written in *FLIGHT*, and now more than ever it is necessary to give this type of aircraft the encouragement which has been largely denied it in the past. There are numerous places both near home and farther afield where seaplane routes could and should be developed. At one time we had hoped that the derelict station at Felixstowe might become the terminus for seaplane services to the Continent, but the transference of the Isle of Grain air station to Felixstowe has probably effectively put a stop to that scheme. However, there must be a number of other localities nearly as well suited to the purpose, with customs facilities, etc., already existing, and which could be extended at small expense to include air travellers. The inclusion of the Marine Air Navigation Company in Imperial Airways, Ltd., should be a guarantee that this side of air travel is not lost sight of.

To summarise, the new company is confronted with the conflicting requirements of having to do pioneer work, and also of having to pay a dividend to its shareholders. If it takes a long view of things, and devotes the first three or four years of its existence to development work, counting on reaping its reward later, all will probably be well. If it expects to make a large profit from the start, all will most certainly be wrong.

Japanese Decorations for Ex-Members of the R.A.F.

THE King has given the following ex-members of the Royal Air Force authority to wear the decorations named, which have been conferred upon them by the Emperor of Japan in recognition of valuable services:—

Order of the Rising Sun

Insignia of the Third Class.—Colonel the Hon. W. F. Forbes-Sempill, A.F.C., Master of Sempill.

Insignia of the Fourth Class.—Major F. C. Atkinson, O.B.E., Major H. G. Brackley, D.S.O., Major W. H. J. Eldridge, Major C. H. C. Smith.

Insignia of the Fifth Class.—Sec. Lieut. W. Pollard.

Insignia of the Sixth Class.—Lieut. A. W. Hatfield, Sec.-Lieut. A. S. Sheret, Mr. E. C. Landamore, Flight Sergeant.

Order of the Sacred Treasure

Insignia of the Sixth Class.—Mr. G. Redmond, Sergeant Mechanic; Mr. E. J. Adams, Sergeant Fitter; Mr. W. A. Earwaker, Corporal Mechanic; Mr. W. R. E. Satchell, Chief Mechanic.

The King has given similar authority in the following cases:—

Order of the Rising Sun

Insignia of the Fifth Class.—Flying Officer H. R. Vaughan-Fowler, R.A.F., and Flying Officer A. G. Loton, Reserve of Air Force Officers.

Insignia of the Sixth Class.—Mr. G. R. Volkert.

Order of the Nile (Egypt)

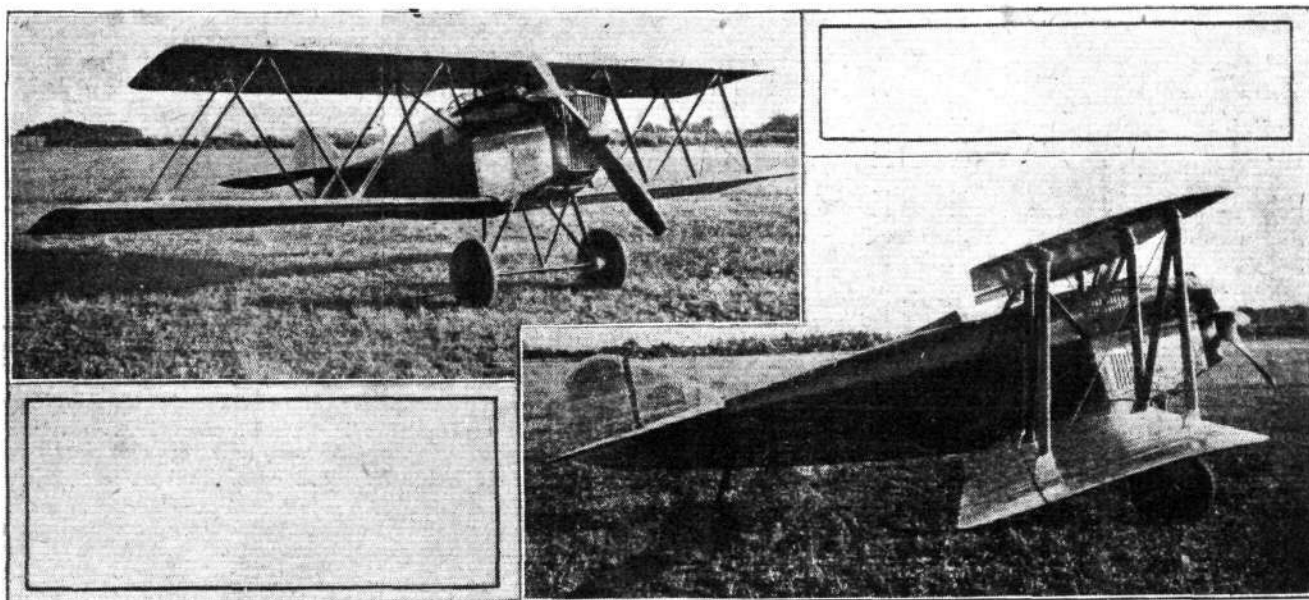
Insignia of the Fourth Class.—Mr. E. G. Newnum, Director of Works, Egyptian Ministry of Public Works.

THE FIAT "C.R.," "R.S." AND "B.R." BIPLANES

WE give below some brief particulars of three recent Italian biplanes constructed by the Fiat Co., of Turin. All three are military machines possessing more or less distinctive features.

The Fiat "C.R." is a single seater fighter, having a 300 h.p. Hispano-Suiza type 42 engine, fitted with two machine guns firing forward through the air screw. The principal features of this machine are its high speed, ease of control,

The outer wing bracing is of the rigid triangular, or Warren, type, consisting of three pairs of oval-section steel interplane struts each side of the fuselage and two "N's," also of steel tube, from the fuselage itself. The only external wire bracing employed in the wing cellule is to be found in the incidence wires between the outer struts. There is no dihedral angle to the upper plane, but the lower is set at about $2\frac{1}{2}^\circ$.



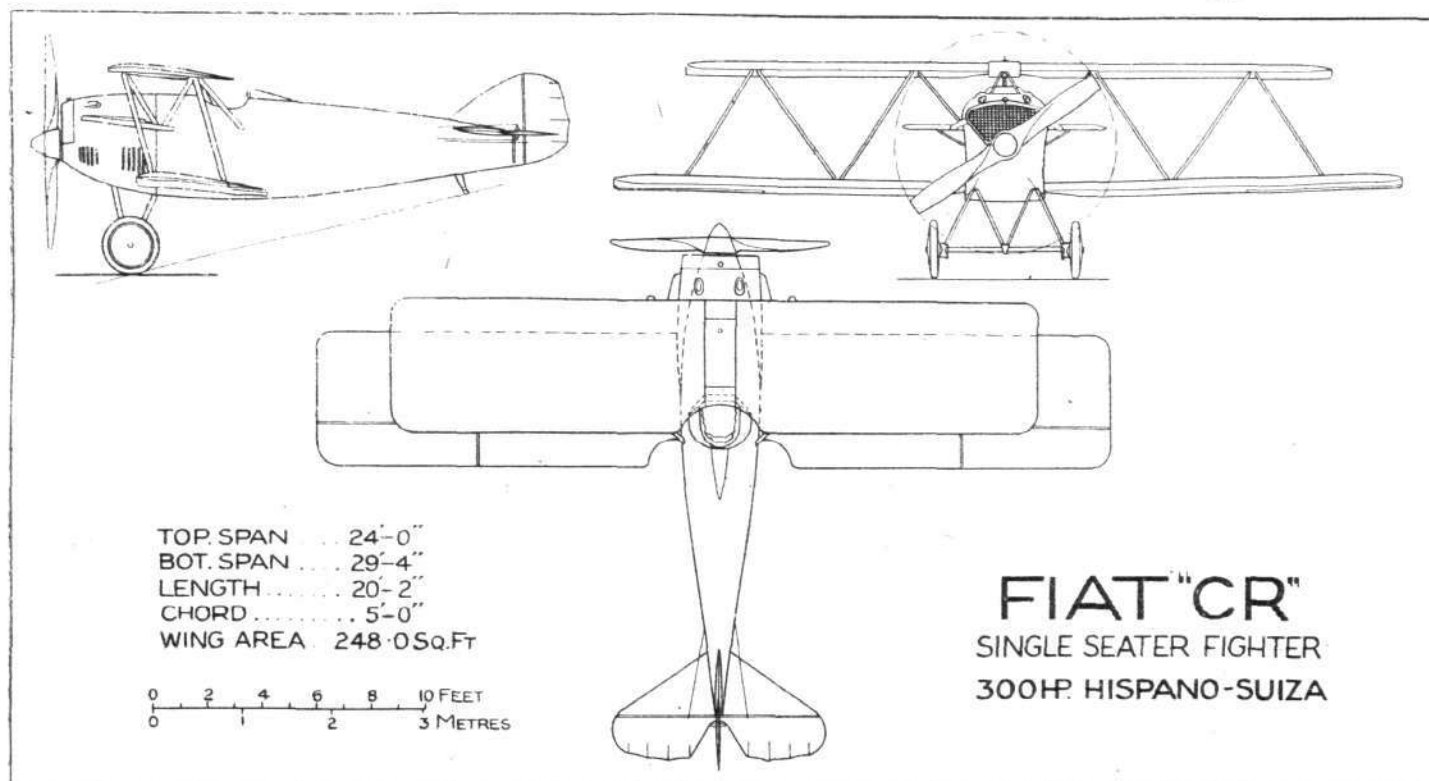
Two views of the Fiat "C.R." single-seater fighter, 300 h.p. Hispano-Suiza.

manœuvrability and, owing to the wing arrangement, good visibility.

Perhaps the most distinctive characteristic of the "C.R." is the arrangement of the wings. As may be seen from the accompanying illustration, the top plane is of shorter span than the lower plane in addition to being staggered forward 15° . Both, however, are of the same chord. Upper and lower planes are in two sections, the two upper ones being joined at the centre to short *cabanes* on the top of the fuselage, and the lower ones being attached direct to the lower longerons of the fuselage. A small service petrol tank is mounted in between the junction of the upper plane sections. Ailerons are fitted to the lower planes only, and these are of the unbalanced type, hinged to the rear spars of the plane.

The horizontal stabilizer, of triangular plan form, is of somewhat small dimensions, and is mounted well above the line of thrust. To it is hinged divided elevators, while the rudder is hinged to the triangular vertical fin mounted on the top of the fuselage; both rudder and elevators are unbalanced.

Of excellent streamline form, the fuselage is a combination of metal and wood construction. It is of rectangular section, with rounded top, tapering from a fairly deep section at the pilot's cockpit to a vertical knife-edge at the rear. The pilot's cockpit is located at the trailing edge of the top plane, the pilot's forward line of vision being slightly below the level of the top plane. A streamline fairing is provided behind the pilot's head.



THE FIAT "C.R." SINGLE-SEATER FIGHTER: General arrangement drawings to scale.

The engine, a 300 h.p. type 42 Hispano-Suiza, is neatly streamlined, being totally enclosed by an aluminium cowling. A gilled tube radiator is mounted in the nose of the fuselage. A more or less conventional undercarriage of the V-divided axle type is employed, the chassis consisting of three V's, one from the centre of the axle and the others from the ends of the axle.

The principal characteristics of the "C.R." are as follows:

Span (top) ..	24 ft. 0 ins.
Span (bottom) ..	29 ft. 4 ins.
O.A. length ..	20 ft. 2 ins.
Height ..	7 ft. 9 ins.
Chord ..	5 ft. 0 ins.
Wing area ..	248 sq. ft.
Weight, empty ..	1,720 lbs.
Weight fully loaded ..	2,458.5 lbs.
Useful load* ..	738.5 lbs.
Weight per square foot ..	9.8 lbs.
Weight per h.p. ..	7.7 lbs.
Safety factor ..	12.5
Speed (ground level) ..	173 m.p.h.
Speed at 6,500 ft. ..	170.5 m.p.h.
Climb to 16,400 ft. ..	15 mins.
Ceiling ..	24,900 ft.
Endurance ..	2 hrs. 30 mins.

* Useful load:—Petrol, 330 lbs.; oil, 44 lbs.; pilot and instruments, 187.4 lbs.; armament, 132.5 lbs.; aerial camera, etc., 44 lbs.

The Fiat "R.S." is a similar, but larger edition of the "C.R." and is intended for offensive and defensive reconnaissance work. It is a two-seater, and is provided with two machine guns, one mounted forward firing through the air-screw and operated by the pilot, the other being mounted on a gun ring in the rear observer's cockpit. In other respects this machine follows the general design and construction of the "C.R.," and is fitted with the same engine—a 300 h.p. Hispano-Suiza. The principal characteristics of the "R.S." are as follows:—

Span (top) ..	30 ft. 0 ins.
Span (bottom) ..	36 ft. 9 ins.
O.A. length ..	24 ft. 6 ins.
Height ..	9 ft. 4 ins.
Chord ..	6 ft. 0 ins.
Wing area ..	387 sq. ft.
Weight (empty) ..	2,200 lbs.
Weight, fully loaded ..	3,500 lbs.

Useful load* ..	1,300 lbs.
Weight per square foot ..	9.6 lbs.
Weight per h.p. ..	11 lbs.
Safety factor ..	10
Speed (ground level) ..	148.8 m.p.h.
Speed at 6,500 ft. ..	142.6 m.p.h.
Climb to 13,000 ft. ..	21 mins.
Ceiling ..	18,700 ft.
Endurance ..	3 hrs. 30 mins.

* Useful load:—Petrol, 518 lbs.; oil, 77 lbs.; pilot, observer, instruments, etc., 352 lbs.; armament, 185 lbs.; aerial camera, W/T, etc., 190 lbs.

The "B.R." is a two-seater day bomber, of which there are two models, the standard type as adopted by the Italian army, and a slightly larger model employed for long range work; these differ only as regards dimensions, etc. The principal features of the "B.R." are its high speed, good climb, and weight-carrying qualities.

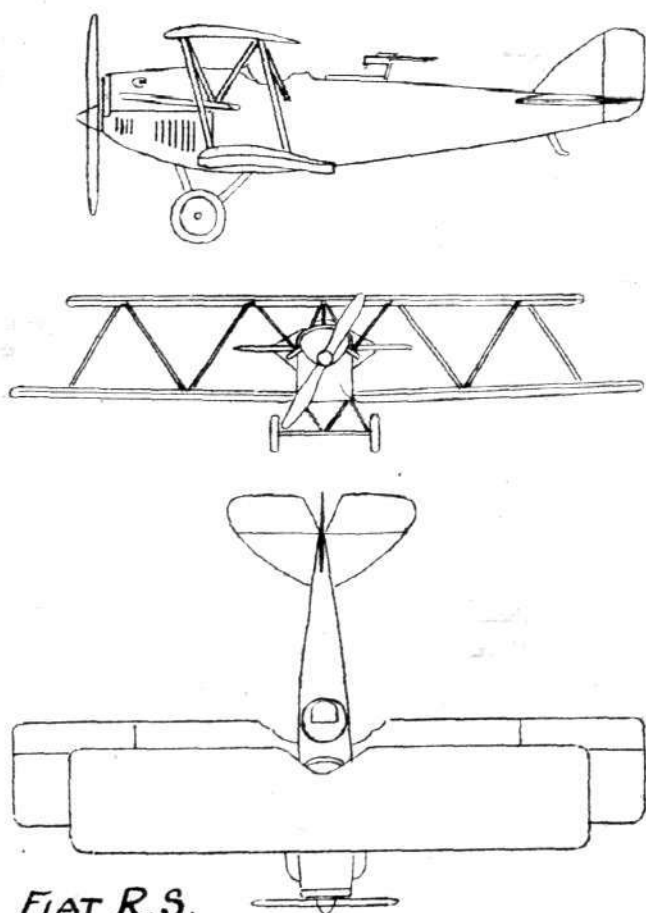
Both models are fitted with the 700 h.p. Fiat A-14 engine, with a honey-comb radiator mounted in the nose of the fuselage. In the "B.R." the arrangement of the main plane is of the more orthodox type, i.e., straight-top plane and lightly smaller span lower plane set at a dihedral angle. The Warren type bracing is, however, again employed. Ailerons are fitted to the top planes, and are balanced by small auxiliary surfaces mounted above and in front of the leading edge of each aileron.

The fuselage is of girder construction, with spruce longerons, cross-braced with wire. The pilot's cockpit is located at the trailing edge of the main planes, and the observer's cockpit is immediately behind. Dual control is fitted. The main petrol tank is located in the fuselage at the centre of gravity, a smaller supply tank being mounted on the top plane.

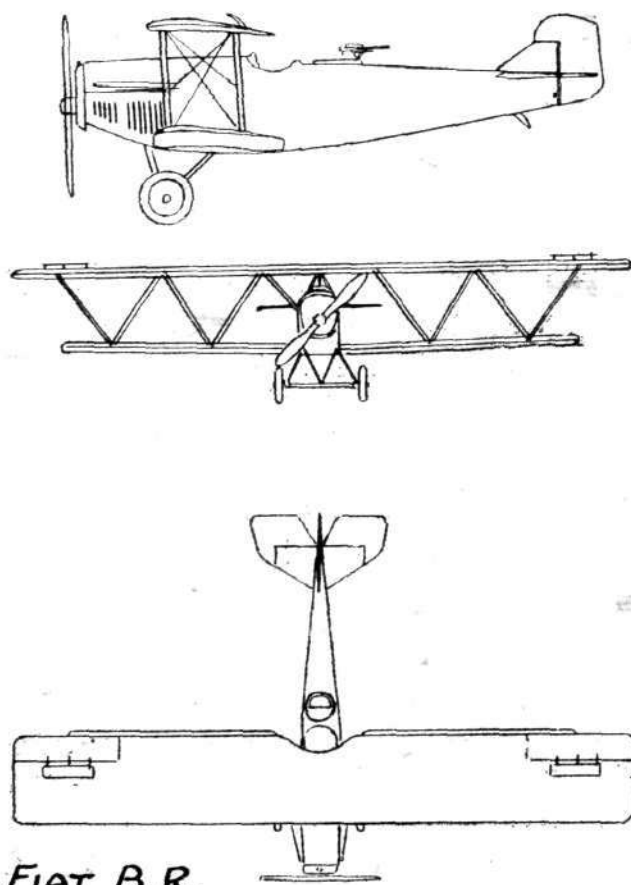
The characteristics of the standard model "B.R." are as follows:—

Span (top) ..	50 ft. 9 ins.	Weight per sq. ft.	9.7 lbs.
Span (bottom) ..	47 ft. 3 ins.	Weight per h.p.	10.3 lbs.
O.A. length ..	33 ft. 4 ins.	Safety factor ..	9
Height ..	12 ft. 6 ins.	Speed (ground level) ..	160.5 m.p.h.
Chord ..	7 ft. 9 ins.	Speed (6,500 ft.) ..	152 m.p.h.
Wing area ..	742.5 sq. ft.	Climb to 13,000 ft. ..	21 mins.
Weight, empty ..	5,000 lbs.	Ceiling ..	19,680 ft.
Weight fully loaded ..	7,276.5 lbs.	Endurance ..	3 hrs. 30 ms.
Useful load* ..	2,200 lbs.		

* Useful load:—Petrol, 827 lbs.; oil, 176.4 lbs.; pilot and observer, 330.75 lbs.; armament and bombs, 871 lbs.



FIAT R.S.



FIAT B.R.

PROGRESS IN THE BIG FLIGHTS

ROUND-THE-WORLD FLIGHTS

As far as actual progress made in the Round-the-World Flights is concerned, the past week must be recorded as an all-American one, for up to the time of writing Squadron-Leader MacLaren has done no more than complete the interrupted journey to Nasirabad, while the three American pilots—who, as stated last week, received an order from Washington to proceed with the flight—have been slowly but surely fighting their way across the most difficult and hazardous part of the route.

The outstanding item of news, however, is that concerning Major Martin, leader of the American team, who, after having been given up for lost by almost everybody, was reported safe, together with his mechanic, Sergeant Harvey. This piece of news, naturally, caused some considerable relief, as the loss of the leader of the expedition, especially comparatively early in the flight, would have cast a permanent shadow over the further progress made in the big flights.

So far only brief accounts of Major Martin's adventure have come to hand, but even so, it is not difficult to see from what is already known that when the full facts are recorded they will present a "story" rivalling the best efforts the authors of "Adventure and Romance" books have yet made.

It appears that Major Martin and Sergeant Harvey not only had a miraculous escape from death at the very start of this adventure, but also underwent very great hardships during the time they were struggling to regain touch with civilisation. Every day, from the time they started off to rejoin the other pilots until the day they made their dramatic appearance at a small port on the Alaska peninsula, was one full of trying experiences and "story-book" happenings. It will be remembered they left Chignik at 11 a.m. on April 30 with the intention of rejoining their comrades at Dutch Harbour, some 400 miles journey. After flying for a little over an hour they encountered dense fog, and very soon completely lost their bearings.

Thus, blinded, they flew for a short time, and then suddenly crashed full against the side of a mountain. The machine was completely wrecked, but fortunately neither Martin nor Harvey were injured. The fog was still very dense, and they had not the slightest idea as to where they were. An attempt was made to reach the coast by compass, but the snow and fog prevented them from maintaining their direction. They, therefore, retraced their track back to the wrecked machine, and using some of the latter for fuel made themselves as comfortable as conditions would allow within the fuselage. The fog was as bad as ever the following day, and no attempt was made to find a way down to the Pacific. They made a second attempt the next day, May 2, however, and followed the course of a small stream running N.W. until nightfall, when they "put up" for the night in a thicket, with branches and snow for shelter. The following morning, having decided that the track they were taking would not lead them near inhabitants, they returned once more to the "wreck" and

spent the night within the fuselage. On May 4 the fog cleared, but in spite of this they could not trace any way down to the Pacific coast. However, they had another try, and made for a lake observed towards the S.W., camping once again in a thicket not very far from the lake. By this time they had very great difficulty in making progress, not only on account of the snow, but owing to their weak state. The lake was reached next noon, but still no signs of civilisation, so they pushed forward once again. On May 6 they came across a trapper's cabin, deserted, but containing a scanty supply of food. Here they spent a couple of days trying to regain some strength, living on pickles, salmon, hot cakes (made from flour found in the cabin) and roast duck! The latter were shot (before roasting!) on the shore of the bay in front of the cabin. On May 9 they left the cabin early in the morning, and eventually arrived that evening at Port Moller, where man was seen once more and news of their safety wirelessed to Washington.

It is announced that Maj. Martin will retain the nominal command of the squadron, the present intention being that if the American flyers succeed in reaching Europe Maj. Martin and Sgt. Harvey will cross the Atlantic and rejoin them there, thus giving Maj. Martin the post of honour which he lost through ill-luck in Alaska.

In the meantime the three "remaining" United States flyers, under the leadership of Lieut. Smith, were proceeding on their way. Leaving Atka Island on May 9, they arrived safely at Chicagoff, Attu Island, after having flown 530 miles in nearly 11 hours.

Sqdn.-Ldr. MacLaren and his crew were still held up all last week, but on Tuesday of this week they were able to resume their flight. A new Napier "Lion" arrived at Karachi on Thursday, May 8, from Baghdad. We understand from *The Times* that after this engine had been converted from a tractor type to a pusher type it was to be dispatched without delay to Parlu and installed in the Vickers "Vulture" amphibian. We have not heard any further news of the "Lion" which was dispatched from London on May 1. It was hoped that Sqdn.-Ldr. MacLaren would be ready to leave Parlu on Sunday last, but latest reports state that his departure is once more delayed owing to radiator trouble. On Tuesday, however, matters were put aright, and he left Parlu for Nasirabad, which was reached safely.

The American team, of four Douglas biplanes (400 h.p. "Liberty"), consists of Maj. F. L. Martin, Lieuts. L. H. Smith, L. Wade and E. H. Nelson, and mechanics. They started from Santa Monica on March 25.

The British flight is made up of Sqdn.-Ldr. A. S. C. MacLaren, Flying Officer J. Plenderleith and Sgt. Andrews, on a Vickers (Napier "Lion") amphibian flying boat.

Respective mileage (approximate) completed to date: American, 3,930 miles; British, 5,410 miles.

PARIS-TOKIO FLIGHT

As reported in our last issue, Lieut. Pelletier d'Oisy, on his arrival at Calcutta on Monday, April 5, found that the wings of his machine required a considerable overhaul. The necessary repairs took three days, during which time Lieut. d'Oisy felt his enforced delay very keenly. However, early on Friday morning, May 9, he and his mechanic started off once again. It was thought that a landing would be made at Akyab, but Lieut. d'Oisy passed over without landing and continued on towards Rangoon.

He passed Rangoon in an attempt to fly direct to Bangkok, but when about 100 miles beyond Rangoon his engine showed signs of giving trouble, so, there being no suitable landing-place in the vicinity, he returned to Rangoon, where he made

a spectacular landing amongst cows and goal-posts on the Maidan at 1.30 p.m. Once again, the machine had suffered as a result of the intense heat, and after effecting the necessary repairs Fly-away d'Oisy was off again by 3 o'clock, and three hours later arrived at Bangkok, the capital of Siam.

Thus, Lieut. d'Oisy made yet another magnificent flight, having covered nearly 1,200 miles in 12½ hours.

On Sunday, May 11, Lieut. d'Oisy left Bangkok at 7.15 a.m., and arrived at Saigon, Cochinchina, a distance of 500 miles, at 1.15 p.m. He experienced very rough weather, which compelled him at times to fly at an altitude of 9,000 ft. Two aeroplanes went up to meet him at Saigon, and when he arrived he received a great welcome from the inhabitants.

Lisbon-Macao Flight

THE Portuguese airmen, Capt. Brito Paia, Lieut. Sarmiento and Mechanic Gouvea, who had succeeded in reaching Karachi on May 4, met with disaster on continuing their journey from this place to Agra on Wednesday, May 7. They had just passed over Parlu, where Squad.-Ldr. MacLaren was stranded, when some 60 miles further on they crashed their Breguet, owing, it is stated, to a cyclone, at Pipar. Capt. Brito Paia and Gouvea were slightly injured, but Lieut. Sarmiento was unhurt. It is reported that a new machine is being

sent out to Karachi to enable them to continue their flight to Macao.

Round Australia Flight

HAVING been held up at Carnarvon owing to engine trouble, Wing Commander Goble and Flying Officer MacIntyre resumed their flight round Australia, on a Fairey III-D seaplane, on May 12, and reached Perth, a distance of 500-600 miles. The following day they flew on to Albany, another 400 miles or so. Since starting from Melbourne on April 6 they have covered about 6,000 miles.

AIR MINISTRY NOTICES

Sweden: Landing on Military Drill Grounds, etc.

1. THE following supplementary regulations relative to the landing of aircraft on military drill grounds are contained in a notice issued by the Swedish Military Authority (Royal Engineers' Department), under date September 25, 1923:—

A.—Preparation of Landing Area.

In order that aircraft may land on military drill grounds and gunnery practice grounds in accordance with Royal Decree No. 617, dated December 8, 1922 (see Notice to Airmen No. 19, of 1923), and at former military camps still controlled by the military authorities, two strips of ground as level as possible, 400 metres long and 100 metres wide, at right angles to each other, will be available, provided local conditions permit. In addition, an area 100 metres long at each end of these strips will be free from all ground obstructions. If there is not room for this, at least one strip of ground of the dimensions stated will be arranged, the boundaries being clearly defined.

B.—Notice to Military Authorities

Prior notification of intended landing on a military drill ground must be given to the officer in command of the military unit stationed there. Pilots who have not given prior notice must, when above the drill ground, signify their intention to land by giving the signals prescribed for night landings in the International Air Convention, Annex D, Section II, paras. 14 (a) and 16, or by making several circuits above the drill ground.

C.—Landing Arrangements

(i) When prior notification of intended landing has been given, the officer in command will clear the landing area of

troops and material, and see that it is marked by a landing T or by posts set along the long side. The landing T will consist of a piece of fabric, the colour being white when displayed on the bare ground, and red or black when displayed on snow or ice, and will be displayed in the centre of the strip of ground reserved for landing, the cross-arm of the T being placed up-wind. The direction of the wind may also be given by means of a wind sleeve, smoke, etc.

(ii) The pilot of an aircraft on reaching the landing ground must take note of its features by making at least two circuits of the landing ground before effecting a landing.

(iii) When prior notification of intended landing has not been given the drill ground will be cleared and the landing marks displayed on receipt of the signals mentioned under B above. The pilot may only land when the signals prescribed in the International Air Convention, Annex D, Section II, para. 14(b), have been given, or a green flag, streamer, or similar signal has been displayed to show that the ground is clear. If a red flag is waved several times or red pyrotechnical lights fired, or if a red light is flashed from the ground, the aircraft may not land.

(iv) In the absence of signals or markings, or if the pilot is unable to see any, he may land if he is satisfied that the landing area is clear.

(v) At military drill grounds where no troops are stationed no arrangements will be made for preventing aircraft from landing. The landing T will only be displayed if it can be conveniently arranged.

(vi) Immediately after landing has been effected the pilot must notify the officer in command. If the officer is absent, notification must be given by telephone or telegram.



The Navy League and the Fleet Air Arm

At the annual meeting of the Grand Council of the Navy League, held at the Central Hall, Westminster, on May 7, the President, the Duke of Sutherland, stated that he did not desire re-election as President, as he was also President of the Air League, and felt that he could not adequately perform the duties of both offices. It was therefore proposed that the Marquess of Linlithgow, a former Civil Lord of the Admiralty, should succeed him, and this was unanimously carried.

The agenda contained a resolution declaring that the meeting was of opinion that, in order to develop the maximum power of efficiency of the Fleet, the control of, and responsibility for, the Fleet Air Arm should be in the hands of the Admiralty, and it was glad to note that a move had been made in that direction. The Duke of Sutherland said that when the resolution was suggested he had approached the Admiralty with the view to finding out whether they would approve of such a resolution, and the First Lord of the Admiralty had sent him the following letter:—

"My Dear Sutherland,—At the present moment most amicable conversations are going on between the Admiralty and the Air Ministry on the subject of the Fleet Air Arm, and I have every hope that these conversations will result in arrangements which will be satisfactory to both Departments. In these circumstances, I would deprecate anything which might result in a renewal of old controversies. It may be said that this resolution only emphasises a cardinal principle in naval policy, but personally I believe in the aphorism, 'The least said, the soonest mended,' and, from the point of view of the Admiralty, I should prefer that the subject should not be raised.—Sincerely yours, Chelmsford."

After receiving that letter, continued Lord Sutherland, he approached the Executive Committee and suggested that, on the whole, it might be wiser not to move the resolution; but the executive and the chairman were of opinion that, from the League point of view, such a resolution would do no harm and should be moved.

The resolution was therefore moved by Vice-Admiral Sir Laurence Power, who said that a compromise had been arrived at, and added that he was against dual control, and compromise could be nothing but an embarrassment in time of war.

Viscount Curzon, M.P., in seconding the resolution said he also did not believe in compromise in such matters, and that the arrangement was not one that satisfied the Admiralty or the Naval Staff.

Rear-Admiral Sir Guy Gaunt, who supported the resolution, said he believed the time was not far distant when the Air service would be practically premier among our fighting

forces. He submitted that the only way to get efficient fighting forces was to do away with dual control and to let the Admiralty run their own personnel. The resolution was unanimously carried.

America—Today and Tomorrow.

To a certain extent Sir Charles Cheers Wakefield disarms criticism; he has modestly described his book in its subtitle as "a tribute of friendship," and he leads off his foreword by telling us that it does not attempt to capture the spirit of modern America. Much of the book is taken up with the doings of the Sulgrave Delegation, of which he was the head, which did valuable work in the cause of Anglo-American friendship, in the autumn of 1922, but Sir Charles has adroitly steered clear of making it merely a record of dinners and speeches. He has kept that part of the book well in subjection, and it is the first five chapters which are the most important, and, of them, that on "Fordism and the future of industry" stands out and marks Sir Charles as a much shrewder observer of his fellow-men than some of his friends knew him to be. Not only has he showed us that he brings a most acute and analytical mind to bear on the problems of industry, but he also possesses the happy faculty of setting forth his impressions and deductions in such simple and clear-cut language that we are never in any doubt as to what it is he is driving at. He is immensely impressed by the methods of Henry Ford, and says: "I have coined the word 'Fordism' because, while the theories of scientific management and mass-production are not perhaps to be traced back in origin solely to his influence, it is certainly true that his use of these methods has been unique and creative. It has been imbued with humanity before all things. It has put the interests of the worker and of the consumer level with those of the capitalist (or, as he terms him, 'the planner'). It has given to the world the unique spectacle of a man combining almost superhuman efficiency with unusual generosity of outlook." This leads him on to a little indulgence in prophecy, and the conclusion: "All this admittedly hazardous theorising is based upon the supposition that there will come a time when the march of science and engineering will permit the fullest needs of the human race to be satisfied with very much less exertion than is needed today. I am convinced that such a time will come. I think it is already true that much more useful production could be made possible today but for certain restraints inherent in our traditional way of life." Sir Charles thinks that transition period is much nearer than most people seem to think. His book is certainly provocative of thought, and it should be read by all who are interested—and who is not?—in industrial questions. It is published by Hodder and Stoughton, Ltd., at 7s. 6d. net.

THE EHRLICH V

A New Austrian Passenger Aeroplane

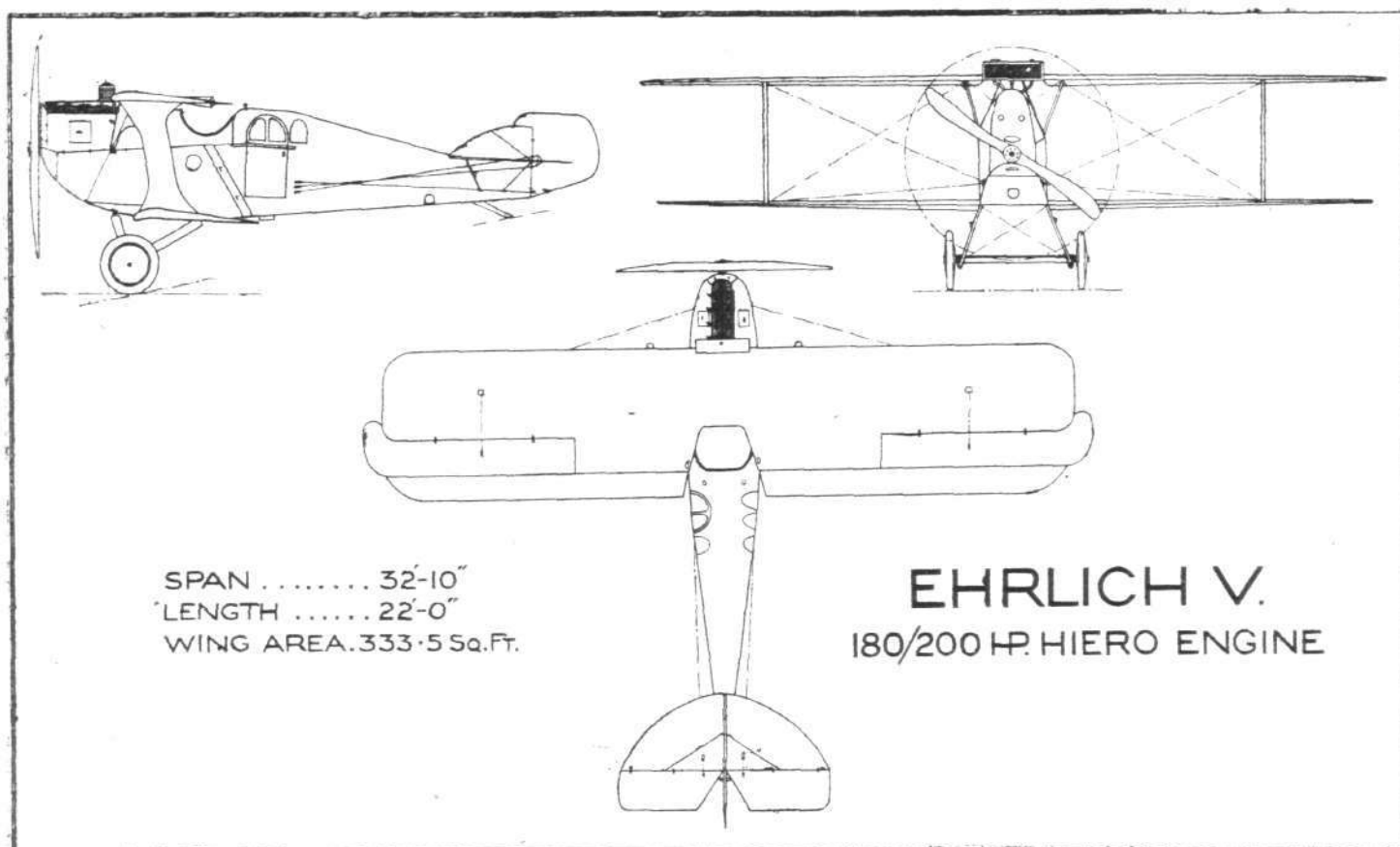
FROM the Zentral Aviatik- & Automobil Ges. M.B.H. of Vienna, we have received the following particulars and drawings relating to a new machine just produced by that firm. The "Z.A.A.G." is, as far as we are aware, a new Austrian firm, as we do not recollect having heard of it before, nor are we acquainted with any machines hitherto built by it.

The present machine, which is known as the type Ehrlich V, is intended for taxi work or the operation of routes on which there is not a great deal of traffic. In addition to the pilot, the Ehrlich V carries two passengers, accommodated in a small cabin behind the pilot's cockpit. The machine was

fuselage, which in front view has a curious resemblance to a face.

The wings are apparently of thin section, and there is but one strut on each side, this being in the form of an I-strut of considerable depth. There is neither dihedral nor sweep-back, but the stagger is fairly pronounced. Nevertheless, it would seem likely that the machine would be tail-heavy, with all three occupants placed aft of the wings, with only the engine and, possibly, the petrol tanks in front to bring the c.g. forward.

For its power the Ehrlich V is not particularly fast, the figure given by the makers being 160 km. (100 miles) per hour,



AN AUSTRIAN PASSENGER BIPLANE: The Ehrlich V general arrangement drawings, to scale.

designed by Herr Karl Ehrlich, who, in addition to being chief engineer, is also chief pilot of the Z.A.A.G.

No particulars are available relating to constructional details, so that it is not known whether the machine is of wood or metal construction. It appears likely, however, that it is of ordinary mixed construction, with ply-wood fuselage.

The engine is a six-cylinder vertical "Hiero," rated at 180/200 b.h.p., mounted in the nose of the fuselage. The radiator is placed above the engine, against the leading edge of the top plane, thus making possible a rounded nose to the

which does not compare very favourably with, for instance, the de Havilland 50, which carries five with a Siddeley "Puma" of 230 h.p. at a considerably higher speed.

Following are the main characteristics of the Ehrlich V: Length, o.a., 6.7 m. (22 ft.); span, 10 m. (32 ft. 10 ins.); height, 3.1 m. (10 ft. 2 ins.); wing area, 31 sq. m. (334 sq. ft.); weight empty, 850 kg. (1,870 lbs.); useful load, 400 kg. (880 lbs.); total loaded weight, 1,250 kg. (2,750 lbs.); wing loading, 40.3 kg./sq. m. (8.25 lbs./sq. ft.); power loading, 6 kg. (13.2 lbs./h.p.); duration, 2 hrs. 30 mins.; speed, 160 km. (100 m.p.h.).

Belfast-Liverpool "Seasons"

THE recently-formed Belfast-Liverpool Air Service is already proving a success, and we understand that all available space in the machines on the Liverpool-Belfast trips is booked up for several months ahead. Season tickets are now being sold on this service, the first one having been issued to the general manager of a big commercial firm. The cost of a season ticket for six months is £50.

London-Birmingham Air Service

THE first home service of Imperial Airways, Limited, the new national air organisation, will be inaugurated next Monday, when a series of aeroplanes will carry passengers between London and Birmingham in connection with the Hardware and Engineering Section of the British Industries Fair, which takes place in Birmingham from May 12 to May 23. The Birmingham exhibition buildings are situated actually on the aerodrome at Castle Bromwich, so that

visitors by air will be able to step directly into the Fair on alighting.

Captain Barnard, of King's Cup fame, will pilot the first machine, carrying ten passengers, who will leave the Hotel Victoria, Northumberland Avenue, by motor-car for the aerodrome at 10.30 a.m. They will be received at the exhibition by the Lord Mayor of Birmingham and the Council of the Fair.

The air passage occupies an hour, or a little less, and a return journey will be made from Castle Bromwich at 1.30 p.m.

Seats may now be looked at the Hotel Victoria.

A New Altitude Record?

ACCORDING to reports to hand the French pilot Coupet established a new altitude record on April 6 at Toussus-le-Noble, when, flying a Farman Goliath and carrying a load of 2,204 lbs., he attained an altitude of 19,000 ft.

LIGHT 'PLANE AND GLIDER NOTES

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of FLIGHT, who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.

THE informal discussion which took place at the Institute of Aeronautical Engineers on Friday of last week helped to bring into prominence the urgent need for a relaxation of the restrictions at present surrounding flying, and more particularly private flying of machines not being flown for payment or hire. Commander Harold Perrin mentioned that the Royal Aero Club was taking up strongly the matter of light 'planes' with the Air Ministry, and we now learn that there is every likelihood of the stipulations as to ground engineers' certificates, etc., being abolished in the case of privately owned machines of this class. It is to be hoped that this report is correct, as the relaxation of the restrictions would do more than could any other single thing towards popularising the light 'plane'. At the moment we do not know what it is proposed to do regarding airworthiness certificates, but we do think that the Air Ministry might very well leave it to individual constructors to judge whether or not a machine was sufficiently strong. It is not likely that a manufacturer would jeopardise the good name of his firm by building unsafe machines, and the release from Government inspection of materials, erecting, etc., would do much towards lowering the price at which machines could be sold.

NATURALLY we do not suggest that any amateur should be given a free hand to build a machine out of any sort of junk he could pick up, and then go flying across country to the risk of everything and everybody below, but responsible firms could, we strongly maintain, be given quite a free hand.

LIEUT. THORET has been making fresh gliding experiments in Northern Africa. This time he has visited Algier, where, at Nostaganem, he has remained aloft for two hours. With a passenger he stayed up for 16 minutes. As in the Biskra experiments, Thoret used a Hanriot H.D.14 school machine, and the glides were, of course, made with engine stopped.

A LIGHT 'plane meeting is to take place at the Brussels Aerodrome (Evere) on June 16 and 17. Competing machines are to be limited in engine capacity to 1,100 c.c. for single-seaters and to 2,000 c.c. for two-seaters.

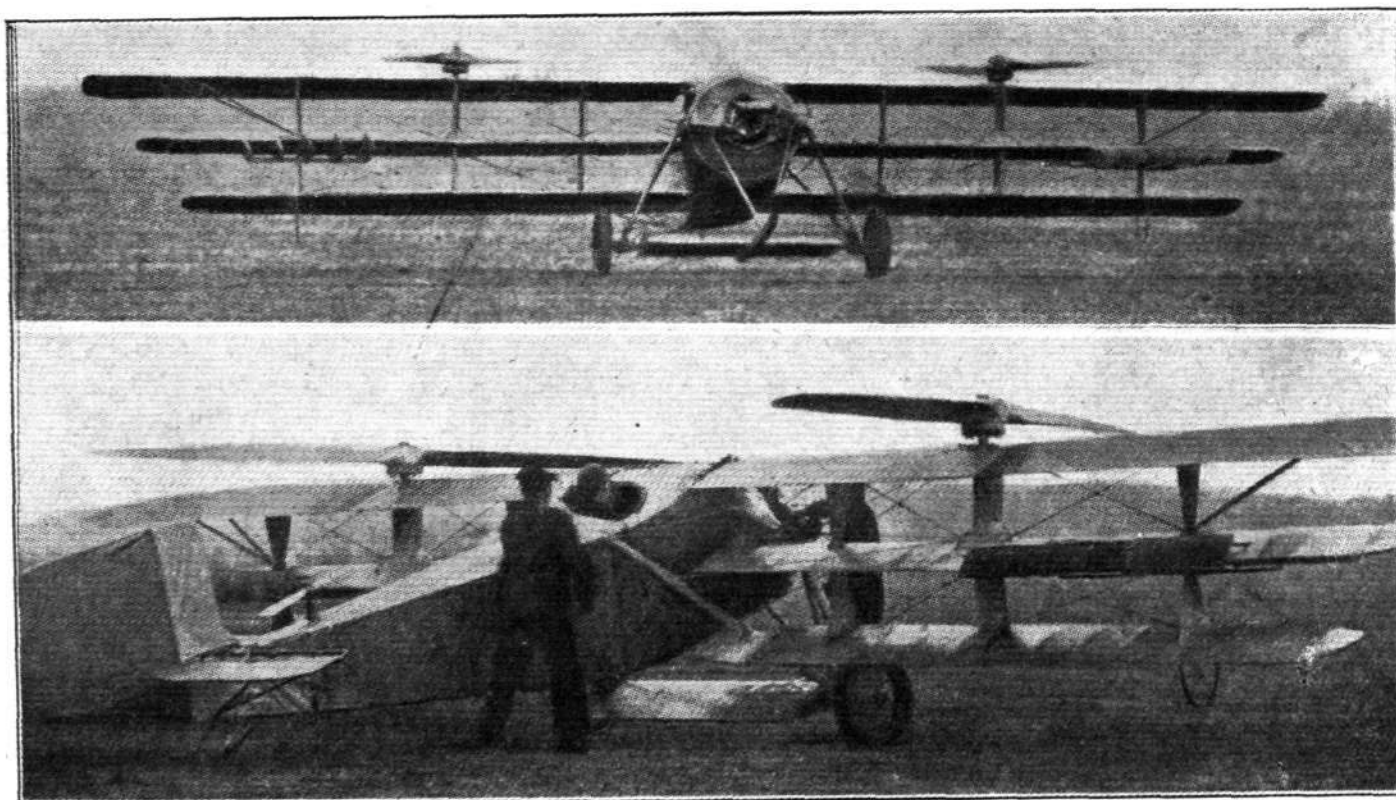
QUALIFICATION tests will be carried out on June 16 over the course* Brussels-Gossoncourt-Bierset and back. The actual competition will include take-off tests, landing tests and dismantling tests. For the take-off tests it is required to leave the ground in the shortest possible distance, which will be measured from the starting line to the point where the wheels definitely leave the ground.

SIMILARLY the landing tests will consist in making the shortest possible run after touching the ground, measured from the point where the wheels first touch to the spot where the machine has come to rest.

THE dismantling and transport tests will consist in folding the wing, transporting the machine a distance of 100 metres on the ground, take it between two posts $2\frac{1}{2}$ metres apart, erect the wings, and make a demonstration flight in order to show that the machine is fully erected and fit for flying. One hour is allowed for this test.

ONE mark will be deducted for each metre of the take-off and pull-up, and one deducted for each minute occupied in the dismantling and transport test. The total classification will be obtained by the addition of the negative marks in the three sections, the competitor with the smallest number of marks being placed first.

THE prizes to be awarded total a value of 35,000 francs. The competition is of an international character, and British machines will thus be allowed to compete. It is to be feared, however, that no British machine will be finished in time to be thoroughly tested before the Belgian competition. The entrance fee is 100 francs, which will be refunded to machines actually taking part in the tests. For all information relating to the competition readers are asked to write to the Secretariat de la Commission Sportive, Aero Club de Belgique, 73, Avenue Louise, Brussels.



Courtesy of "Aviation" (U.S.A.)

A SUCCESSFUL HELICOPTER: Two views of the latest Berliner helicopter, constructed by Henry A. Berliner, of Washington, U.S.A., which has recently been making successful demonstrations before officials of the U.S. Army Air Service.

THE FUTURE OF AVIATION IN BRITAIN

Final Meeting of the Current Session of the Institute of Aeronautical Engineers

THE final meeting of the current session of the Institute of Aeronautical Engineers took place on Friday, May 9, and took the form of an informal discussion which was opened by Capt. W. H. Sayers. Mr. Molesworth was in the chair, and before asking Capt. Sayers to open the discussion he explained that the Council of the Society had thought it necessary to call attention to the fact that it did not necessarily concur in the views expressed, but preferred to regard Capt. Sayers' contribution not as an ordinary paper, but as a statement regarded by the Council as useful in opening a quite informal discussion.

Capt. W. H. Sayers said there were two sides from which one could deal with the subject of the future of aviation in Britain. One was the technical; but that, he thought, he had already dealt with sufficiently in various places. He, therefore, proposed to deal with the second side—the political and psychological. He thought that for a Government department the Air Ministry was quite a reasonable institution; but in spite of the fact that individual Air Ministry officials as a rule had very sound ideas as to what an aeroplane should be, the fact remained that in the total Air Ministry control had, he thought, hampered development. There was too much tendency on the part of the Air Ministry to remove from individual manufacturers and designers not only initiative but also responsibility. What, in effect if not in actual words, was the attitude of the Air Ministry was somewhat as follows: If you design to our load factors and use inspected specified materials your machine will be safe. The result was that manufacturers not only had their hands tied, but were virtually relieved of responsibility. He thought it would be better to give constructors and designers a free hand, and to let them assume the responsibility if anything went wrong.

There was the problem of popularising flying. This could, he thought, be done much better by letting our young men buy machines and fly them without all the restrictions with which private flying was at present hedged-in. The Air Ministry would probably claim that it had done much to make flying safe, but their policy, if carried too far, would finish up in the ridiculous position of making flying entirely safe by prohibiting flying. By way of showing how Air Ministry "encouragement" had helped aviation, Capt. Sayers quoted figures for a number of military types of aircraft of foreign design and construction, and stated that in each case these machines were several miles per hour faster than our own corresponding types. The excuse that ours were better armed, had their guns in better positions, or were of greater structural strength did not really hold good, as the faster machine need not, except by very rare accident, get itself into a dangerous position. He thought it might be necessary, as regards private flying, for a few enthusiastic aviators to break the laws of the country in order to show up the ridiculous side of many of the existing restrictions. Nothing killed as quick as ridicule, and something might be done in this way.

The Chairman then read a letter from Col. Alec Ogilvie, who expressed the opinion that although the restrictions imposed might be very irksome, Government inspection could not be relaxed without introducing considerable dangers.

Another letter was read, from Mr. Tinson, who thought there was a lot of unnecessary duplication of the Government's and the manufacturer's mathematical and inspection staffs, which duplication increased the cost of building.

Comdr. J. C. Hunsaker, of the United States Naval Air Service, said he thought Capt. Sayers had quoted too optimistic figures relating to some of the American machines, which must, he thought, refer to racing machines rather than to service types. With regard to "Gypsy fliers" (American pilots who buy surplus war machines and take up paying passengers at fairs, etc.) these were not so bad as made out, and he rather doubted the accuracy of the casualty figures one saw quoted.

Maj. Davidson, of the United States Army Air Service, also stated that his department did not object to "Gypsy fliers." These people did a lot of useful propaganda work in initiating the general public in flying. He thought that in America, a free country, a man should be allowed to break his neck in any way he chose. When it came to carrying paying passengers it might be rather a different thing. A Bill was now being put through Congress relating to carrying passengers for hire. With reference to Capt. Sayers' remarks about the

long time taken to get orders through in this country, and the rapidity with which they were got through in America, he really did not think there was much to choose, as his experience had been that it took as long in America, and that the two countries were running parallel in this respect.

Comdr. Boothby said he would confine himself mainly to the airship side. Regarding this, it could only be said that the Air Ministry had killed airships. For the long distances needed in Empire communications some form of aircraft that would be capable of long flights without alighting, and which could fly at night as well as by day, was required, and at present the airship was the only type that could do that. He pointed out that one reason for the Air Ministry's attitude to airships might be that there had never been an airship officer on the Air Council, and that there was no longer at the Air Ministry any officer who had been in charge of an airship station. On the aeroplane side, he thought it was significant that every world's record had now passed into foreign hands. What, Comdr. Boothby said, we had to make up our minds to do was either to kill or to cure the Air Ministry.

Mr. Parrott thought the title chosen by Capt. Sayers was wrong, and that the discussion seemed to have turned to a criticism of the Air Ministry instead of the channels which, from the title, one might have expected it to follow. He was not in favour of quite abandoning Government control and supervision, and thought a considerable amount of official control was wanted in the case of machines carrying passengers for hire. In the case of private machines the need was not, perhaps, so great, but even then, if private owners were given a free hand and a number of accidents resulted, this would do harm to the cause of aviation. There was, however, one respect in which he thought improvements could be effected. At present the Air Ministry did not take the constructors into its confidence in the matter of special equipment. The consequence was that designers, instead of being trusted with the installation of equipment, were given some overall size to which to work, and in many cases this meant a waste of space and often of weight. If constructors were given the actual equipment for fitting up in the machine, they would be better able to plan their design, and improvement was to be expected.

As regards technical improvement, Mr. Parrott did not think it likely that we should discover any fundamentally new principle, but that progress would be along the lines of detail improvement. He thought there was room for improvement in aero engines, and that, if it were possible, one should try to do away with reciprocating parts.

Lieut.-Commander H. E. Perrin dealt mainly with the subject of private flying, and made the very encouraging announcement that the Royal Aero Club would do all it could to encourage the light plane, but that the present restrictions must be removed. The Royal Aero Club was taking the matter up very strongly with the Air Ministry.

Dr. Thurston referred to the grandmotherly treatment by Government departments, and recalled the days when a motor-car was only permitted to proceed along a road or street if preceded by a man carrying a red flag. As motor-cars came into general use this ridiculous restriction was removed, and in air matters something similar would have to happen. Dr. Thurston thought private flying by our young men should be encouraged, and drew a picture of the way in which probably the love of the sea, now thoroughly infused into British life, came into being, by the early adventurers putting out in coracles, tubs or even on planks, the distances covered gradually increasing as experience was gained and the craft improved. In the air much the same line of development should obtain.

Mr. Flanders said that the discussion seemed to have taken a course with which he did not quite agree, but if the assembled company wished to discuss the position of the Air Ministry he would contribute his views on the subject. He pointed out how development in any science had always been begun by men of outstanding intelligence, but as the subject grew it became too large for one man to handle, and was then carried on by many, who were often of mediocre intelligence. It seemed, however, that the collective work of mediocre men gave fairly good results. So with the Air Ministry, which was muddling along, but which was, on the whole, doing fairly well. He thought the main trouble, and that which had given cause for most dissatisfaction, was with the personalities of a few officials. Mr. Flanders

then recalled the early days of flying, when we were all "gypsy fliers," and said he thought that most of the really big work was done in those days. He suggested that improvement might be effected if some of the early designers and experimenters, many of whom were now out of a job, were taken on.

Mr. Tilghman Richards referred to the lack of public interest in flying, but said it was really not to be wondered at. Accidents were given too great prominence in the press; machines were oily, smelly and noisy; and when we talked glibly of the great advantage of flying, its safety, etc., did we not really talk with our tongue in our cheek? He thought there was a marked stagnation in enterprise, and that nobody was willing seriously to interest themselves in real innovations. As regards commercial flying, he did not think any commercial undertaking could stand the cost of the large and expensive staffs. He uttered the warning that if those now intimately connected with aviation did not take heed, history would repeat itself, the real business man would step in and take over aviation, and those who had done the pioneer work would be shouldered out. As regards the unsatisfactory position of Air Ministry control, he thought the aircraft industry had the remedy in its own hands. By concerted action the S.B.A.C. could control the Air Ministry.

Mr. de Holden Stone said he preferred to regard aircraft engineering as an art rather than as an exact science, and that it must be set free of restrictions. What was wanted

above all else was a new fuel, lighter than petrol and of smaller bulk.

Mr. Evans expressed surprise at finding, from practical experience, that in most firms designers did not pay all the attention they might to the vast amount of data collected and published both in this country and in America. He thought the slow progress was due to the unwillingness of firms to experiment along new lines such as with slotted wings, variable camber gear, and other improvements which model tests had shown to be promising.

In conclusion Capt. Sayers summed up his views of the situation by referring to the Meteorological Office. This office was doing very good work. It was not infallible, certainly, but on the whole there was little to find fault with. What the Meteorological Office did was to say, for instance, that tomorrow we should probably have rain. Everyone was then at liberty to take any precautions he thought necessary to protect himself. That was quite satisfactory, and as it should be. But what would the public say if suddenly the M.O. took upon itself to enforce that the public should wear raincoats? Yet that was in effect what the Air Ministry was trying to do in the matter of flying. Constructors should be given a free hand, but if anything happened to their machines and people were killed they should be liable for manslaughter. Giving them a free hand, but letting them bear the responsibility, was the solution, as he saw it, of the present position.



AT WEMBLEY

NOTABLE among the exhibits in connection with aircraft at the British Empire Exhibition at Wembley are those of Messrs. Sir W. G. Armstrong-Whitworth Aircraft, Ltd., and Messrs. Armstrong-Siddeley Motors, Ltd. A working example of the Jaguar engine, sectioned so that the moving parts can be seen in operation, is being exhibited on the Air Ministry stand. In addition a Siskin biplane and a Lynx and a Jaguar engine are being shown on the stand of Sir W. G. Armstrong-Whitworth and Co., Ltd., in the Palace of Engineering. These exhibits are bound to be of exceptional interest to all who are concerned with aviation.

Although not directly connected with aviation, we wish to make a reference to "The Queen's Doll's House"—which, of course, every visitor to Wembley will make a point of seeing. In the Garage of this wonderful building there are models of five cars, viz.: Rolls-Royce, two Daimlers, Lanchester and Crossley and a Harley-Davidson motor-cycle and side-car, and standing alongside are four miniature 1-gallon tins of Wakefield "Castrol" which measure $\frac{1}{12}$ ths of an inch in height; complete with dust covers, also two 10-gallon drums which measure $1\frac{1}{4}$ in. in height, fitted with taps. These are perfect facsimiles of full-size tins and drums, and have been supplied by Messrs. C. C. Wakefield and Co., Ltd., Wakefield House, Cheapside, London, E.C.2.

Messrs. S. E. Saunders, Ltd., Yacht and Aircraft Constructors, of East Cowes, Isle of Wight, who are well-known to our readers in connection with flying-boat hulls, are represented at the British Empire Exhibition with a stand in the Palace of Engineering (Avenue 1, Bay 17), where they are displaying specimens of their products. These include several

examples of Saunders "Consuta" Sewn Plywood, the most interesting example being an 8 ft. 10 in. Dinghy constructed entirely of "Consuta," which weighs fully equipped 56 lbs.

There are also two Saunders Inboard Portable Motors, single cylinder and two cylinder models, and several models of yachts and launches built by the Company, including a very fine example of a "Consuta" launch built for H.M. The King. We are asked to say that Messrs. S. E. Saunders, Ltd., extend an invitation to visitors to the Exhibition to their stand, where all information concerning their work will be gladly given.

The importance of wireless in connection with aviation is, of course, fully appreciated by our readers, and those especially interested in this important science—which has also become a most fascinating "hobby"—will find wireless well represented at Wembley. Mention has previously been made in *FLIGHT* (April 24) of the Marconi exhibit in the Electrical Engineering Section, so it will not be necessary for us to go over the same ground again, but we may say that, as would be expected from this famous "House," the Marconi exhibit is both representative and interesting.

Another Wireless exhibit at Wembley, appealing more to the popular side of wireless or to the "Listener," is to be found on the Stand of Messrs. A. J. Stevens and Co. (1914) Ltd., of Wolverhampton—the makers of the well-known "A.J.S." motor-cycles. Here the visitor will find not only a full range of the successful "A.J.S." Valve Receiving sets, but also many of the "gadgets" so fascinating to the "Wireless Fiend."



Capt. Keep, of "Westlands," Injured

WE regret to announce that Capt. A. S. Keep, who has been associated so long with the Westland Aircraft Co., of Yeovil, met with a serious flying accident on Friday, May 9. It appears that he was testing a new machine, when it suddenly nose-dived, and crashed to the ground. The impact with the ground was so great that Capt. Keep was thrown out.

When picked up he was found to be seriously injured, and on removal to Yeovil Hospital it was discovered that he had sustained fractures of both legs. It is understood that the injury to one leg was so bad as to necessitate amputation. Capt. Keep's condition is somewhat critical.

Air Defence Display at the Royal Tournament

A DEMONSTRATION of home air defence is to be given at the Royal Tournament, which opens on May 22, next week, when the King will be present.

The scene in the arena will represent an air defence station near London, with anti-aircraft guns and searchlights in position. Aircraft will be heard in the sky, and searchlights will show up a small hostile airship accompanied by large

aeroplanes on which the guns open fire. The aeroplanes escape, but the airship will be brought down in flames.

Units taking part in the above display are: The 1st Air Defence Brigade, the Royal Air Force, and the 27th A.A. Battalion R.E. (T.A.) (London Electrical Engineers).

Hawker Memorial

A HANDSOME marble memorial has been erected in the village churchyard of Hook (Surrey) to Mr. Harry Hawker, who was killed while flying in July, 1921.

D'Oisy's Record

THE Aero Club de France has officially registered a height record made by Lieutenant Pelletier d'Oisy in a sea-plane at St. Raphaël, on April 17. He reached a height of 7,071 ft. with a deadweight load of 3,306 lb.—*Reuter*.

A Napier Success

OFFICIAL recognition has been given to Mr. Otto Ballod's altitude record, in which he attained a height of 21,414 ft., carrying a load of 1,102.5 lbs., at Buenos Ayres recently. He was flying a Fokker C.IV fitted with a 450 h.p. Napier "Lion."

THE ROYAL AIR FORCE

London Gazette, May 6, 1924

Air Commodore F. C. Halahan, C.M.G., C.B.E., D.S.O., M.V.O., is appointed Director of Technical Development, Air Ministry; April 18.

General Duties Branch

The following Pilot Officers on probation are confirmed in rank (March 15):—C. G. M. Anderson, E. L. Batson-James, C. H. W. Boldero, J. S. Branch, D. C. Burnley, E. C. Dearth, G. D. Gibson, R. P. Keely, L. C. Lewis, K. Maconochie, D. J. F. McMillan, C. D. S. I. McDevitte, C. H. P. Morgan, T. de L. Neill, R. F. de R. Read, L. H. Ross, L. R. Shaw, S. M. Thomas, J. B. Townend, F. W. C. G. Tussaud, J. H. Woodin.

Flying Officer C. T. Johnson relinquishes the acting rank of Flight Lt.; Nov. 21, 1921. Pilot Officer C. M. O. O. Springfield is placed on retired list on account of ill-health; May 7. The following relinquish their short service commissions on account of ill-health; May 7:—Flying Officer R. E. Bright, Pilot Officer N. P. C. Mellor.

Stores Branch

The following are granted short service commissions as Pilot Officers on probation for accountant duties, with effect from, and with seniority of, April 28:—W. F. Barrell, F. L. Brown (Capt., Indian Army, ret.), D. F. A. Clarke, J. M. Hopkins, G. R. Keep (Capt., R. of O., R. Sussex Regt.), S. P. Wyatt (Paymr. Lt., R.N., ret.). Pilot Officer on Probation C. W. Cackett is confirmed in rank and is promoted to rank of Flying Officer; Dec. 5, 1923.

Medical Branch

G. P. O'Connell, M.B., is granted a short service commission as a Flying Officer, with effect from, and with seniority of, April 23. Flight Lieut. (Hon.

Squadron Leader) H. B. B. Greene relinquishes his temporary commission on ceasing to be employed, and is permitted to retain rank of Flight Lieut.; April 14. *Gazette*, April 29, 1924, concerning Flying Officer K. R. Smith, M.D., D.P.H., is cancelled.

Reserve of Air Force Officers

W. Lowry is granted a commission in Class A, General Duties Branch, as a Pilot Officer, on probation; May 6. Flying Officer D. M. I. Macarthur is transferred from Class C to Class A; Sept. 21, 1923. Flying Officer R. C. Rodger, M.C., D.C.M., is transferred from Class B to Class C; March 31. The commission of Pilot Officer on Probation F. C. L. Young is terminated on cessation of duty; April 2.

Princess Mary's Royal Air Force Nursing Service

Miss M. E. Garnett is confirmed in her appointment as Staff Nurse; Dec. 15, 1922.

Memoranda

Maj.-Gen. Sir H. H. Tudor, K.C.B., C.M.G., relinquishes his temporary commission as an Air Vice-Marshal on ceasing to be employed; April 26.

London Gazette, May 9, 1924

General Duties Branch

Flying Offr. D. K. Whitlock is cashiered by sentence of General Court-martial (January 20).

Memorandum

The notification in *Gazette* of April 11, 1919 (FLIGHT, April 17, 1919, page 519) concerning Sec. Lt. H. S. Basford is cancelled.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Air Commodore R. H. Clark-Hall, C.M.G., D.S.O., to Egyptian Group H.Q., pending taking over command. 2.5.24.

Wing Commanders: T. G. Hetherington, C.B.E., to R.A.F. Depot (non-effective pool), on transfer to Home Estab. 20.4.24. J. H. S. Tyssen, M.C., to No. 1 Group H.Q., Kidbrooke, for Air Staff duties. 19.5.24.

Squadron Leaders: H. A. Michell, O.B.E., to H.Q., Palestine. 15.4.24. F. P. Don, to H.Q., Egypt. 11.4.24. W. H. de W. Waller, A.F.C., to No. 4 Flying Training Sch., Egypt. 9.4.24. D. Iron, O.B.E., to No. 2 Flying Training Sch., Duxford. 23.5.24. A. A. Walsher, M.C., D.F.C., to No. 31 Sqdn., India. 2.5.24. A. N. Gallehawk, A.F.C., to Transjordan H.Q., Palestine. 2.5.24. Hon. L. J. E. Twisleton-Wykeham-Fiennes, to No. 29 Sqdn., Duxford. 1.6.24. G. H. Bowman, D.S.O., M.C., D.F.C., to R.A.F. Depot, whilst attending course at Senior Officers' Sch., Sheerness, on transfer to Home Estab. 23.5.24. C. C. Durston, to No. 13 Sqdn., Andover. 30.5.24. A. W. F. Glenn, M.C., D.F.C., to Sch. of Army Co-operation, Old Sarum. 30.5.24. F. E. Hellyer, O.B.E., to No. 1 Group H.Q., Kidbrooke. 19.5.24.

Flight Lieutenants: D. V. Carnegie, A.F.C., to R.A.F. Depot, on transfer to Home Estab. 28.4.24. H. W. Woollett, D.S.O., M.C., to No. 4 Flying Training Sch., Egypt. 16.4.24. H. V. German, to Basrah Group H.Q., Iraq. 1.4.24. A. J. Osborn, to No. 20 Sqdn., India. 3.4.24. M. Moore, to R.A.F. Depot, on transfer to Home Estab. 21.4.24. J. J. Williamson, A.F.C., to No. 70 Sqdn., Iraq. 11.4.24. J. Cottle, M.B.E., D.F.C., to H.Q., Iraq. 7.4.24. C. M. Laing, M.C., A.F.C., to No. 7 Sqdn., Birmah Newton. 20.5.24. G. C. Anne, O.B.E., to R.A.F. Depot. 12.5.24. A. H. Pearce, D.F.C., to Air Ministry. 12.5.24. A. L. Fiddament, D.F.C., to No. 100 Sqdn., Spittlegate. 27.5.24. S. D. Culley, D.S.O., to No. 2 Sqdn., Manston. 22.5.24.

Flying Officers: J. D. S. Denholm, to remain at Armoured Car Wing H.Q.,

Iraq, instead of to No. 4 Armoured Car Co., as previously notified. S. A. Lane, to No. 5 Armoured Car Co., Iraq. 14.4.24. C. Jackson, to H.Q. Inland Area. 2.5.24. A. Sattin, to C. and M. Party, Donibristle. 30.4.24. F. J. E. Feeny, to Basrah Group H.Q., Iraq. 20.4.24. J. Sutherland, M.B.E., to Air Ministry. 2.6.24. M. W. J. Boxall, to remain at No. 7 Sqdn., Birmah Newton, instead of to No. 9 Sqdn., as previously notified. W. J. Richards, to No. 6 Group H.Q., Kenley. 19.5.24. G. A. Kysh, to Sch. of Tech. Training (Men), Manston. 27.5.24. L. J. Booth, to R.A.F. Base, Leuchars (No. 441 Flt.). 19.5.24. R. L. Bateman, to R.A.F. Base, Leuchars. 12.5.24.

Pilot Officer C. F. Roupell, to No. 9 Sqdn., Manston. 15.5.24.

Stores and Accountants' Branch

Squadron Leader J. Rylands (accountant), to No. 4 Stores Depot, Ruislip. 1.6.24.

Flight Lieutenants: H. E. T. Crocker, to R.A.F. Depot, on transfer to Home Estab. 25.4.24. F. Paterson, to R.A.F. Base, Calshot. 30.4.24. P. Hay, M.C. (Accountant), to H.Q. Accountant Office, Iraq. 6.4.24. A. Jukes, M.B.E., to No. 1 Group H.Q., Kidbrooke. 19.5.24. M. J. James, M.B.E., to No. 6 Group, H.Q., Kenley. 1.6.24.

Flying Officers: H. J. Bamber, to Aircraft Park, India, instead of to Aircraft Depot, as previously notified. L. A. Mudge, to C. and M. Party, Isle of Grain. 15.4.24. R. V. Robinson, to Supply Services, Iraq. 22.4.24. A. Davidson, M.C., to Supply Services, Iraq. 2.5.24. J. J. T. Rose (Accountant), to H.Q., Egypt. 2.5.24.

Medical Branch

Flight Lieutenants: C. P. Barber, to No. 27 Sqdn., India. 28.3.24. C. A. Lindup, to No. 5 Sqdn., India. 7.4.24.

Legal Branch

Wing Commander S. C. R. Crawford, O.B.E., T.D., to Air Ministry, for duty in Judge Advocate-General's Office. 10.4.24.

IN PARLIAMENT

Royal Dockyards and Air Ministry Work

MAJOR HORE-BELISHA on May 7 asked the Under-Secretary of State for Air how much of the necessary construction that his Department has required has been undertaken in the Royal Dockyards in each year since the formation of the Air Ministry, stating in respect of each year the kind and value of the work undertaken in each of the Royal Dockyards separately; and whether, seeing that the dockyards are national establishments, he will in the future undertake to give them preference in the necessary constructive work of his Department?

Mr. Leach: The work performed by the Royal Dockyards for the Air Ministry concerns the supply and repair of marine craft, moorings, torpedoes and the like. If the hon. and gallant member's question is intended to cover all items of service performed and issues made by each of the dockyards for the Air Ministry which could be brought under the description of construction from a dockyard point of view, I am afraid that the data are incomplete and that the labour involved would be considerable and could hardly be justified. If, however, he has in mind aircraft construction work, the answer is that orders for such work are not placed with the dockyards, nor is it considered that they could usefully undertake it.

R.A.F. Officers Killed and Dependents' Pensions

Sir V. WARRENDER, on May 8, asked the Under-Secretary of State for Air what provision is made for dependants of officers of the Royal Air Force killed while flying?

Mr. Leach: Pensions may be granted to the widows of officers dying as the result of a flying accident on duty, the rates, which vary according to the rank of the deceased officer, being as follows: (per annum):—

Pilot Officer, £90; Flying Officer, £90; Flight Lieutenant, £100; Squadron Leader, £140; Wing Commander, £180; Group Captain, £200; Air Commodore, £240; Air Vice-Marshal, £300; Air Marshal, £375; Air Chief Marshal, £450; Marshal of the Air, £600.

Eligibility for the award is subject to conditions referring to the date of the officer's marriage and the date of his death in relation to the date of the wound or injury which caused his death. Under existing Regulations, which, however, on this point are subject to review, the award of a pension

may be accompanied by the award of a gratuity at the following rates according to rank:—

Pilot Officer, £100; Flying Officer, £150; Flight Lieutenant, £200; Squadron Leader, £300; Wing Commander, £450; Group Captain, £600; Air Commodore, £800; Air Vice-Marshal, £1,000; Air Marshal, £1,250; Air Chief Marshal, £1,500; Marshal of the Air, £2,000.

The child or children (sons under the age of 18 and daughters under the age of 21) may be granted a compassionate allowance of £24 a year cash, or, if motherless, £40 a year. In certain circumstances of pecuniary need, a child or children above the age of eight may be granted in addition an education allowance not exceeding £35 a year each.

If the deceased officer has not left a widow or child, an allowance not exceeding half the appropriate widow's pension rate may be granted to his parents, or, if he did not leave a parent, to his young brothers and sisters, provided in each case that they were largely dependent on him at the time of his death and their pecuniary and other circumstances are such as to justify the grant. The maximum allowance to any one brother or sister is £24 a year. The allowance to a parent or parents is subject to increase up to three-quarters of the widow's pension rate in certain circumstances of age or serious incapacity due to ill-health.

Felixstowe Flying Experiment

CAPTAIN BRASS asked the Under-Secretary of State for Air whether he can state what amount of public funds was expended in the recent Felixstowe flying experiment, when an aeroplane was landed on the sea; whether that experiment proved a success; and, if so, whether the experience gained has resulted in any special regulations being framed for passenger-carrying aeroplanes across the Channel?

Mr. Leach: The answer to the first part of the question is, approximately, £365; to the second, that the experiment furnished valuable information; to the third, that the modifications that may be necessary in passenger aeroplanes which have to fly over the sea are being considered in the light of this experiment. I may add that the aeroplane used would in any case have been broken up as unserviceable.

Christiania-Gothenburg-Copenhagen Air Service

THE proposed air service between Christiania-Gothenburg-Copenhagen will be opened at the beginning of June.

This service should thus form a link with the recently established extension to Copenhagen of the K.L.M. service to and from London.

AIR POST STAMPS

By DOUGLAS B. ARMSTRONG.
New Swiss Air Stamps

CONSEQUENT upon the extension of the air post service between Berne and various parts of the Continent, three additional denominations are to be incorporated in the current series of Swiss air post stamps, viz.: 65 and 75 centimes and 1 franc. All will bear a symbolical picture of the Spirit of the Air uniting mankind, printed in two colours, after the design of Mr. R. E. Vibert of Geneva.

World Flight Aero-Cards

WHILE the mailing of souvenir cards and conveyance of letters found no part in the programme of the British flight round the world, these details were not overlooked, it seems, by their American colleagues. Col. H. W. Moffat has shown me a souvenir postcard mailed at Seattle (Wash.) to mark the completion of the first lap of the United States attempt. Across the top of the card is the printed inscription—

AROUND THE WORLD FLIGHT UNITED STATES AIR FORCE.

A circular cachet on the left contains the words "Santa Monica, Cal.—Clover Field, 1924—First Leg—Seattle, Wash.," and on the right is found the regulation postmark of Santa Monica, Cal., dated March 17, 1924.

The cards were addressed to the Postmaster of Seattle, Wash., by whom they were forwarded to their destination—a 2 c. stamp for return postage being affixed in the lower left-hand corner and cancelled with the Seattle postmark.

The ultimate address figures on the reverse side of the card, beneath what appears to be an advertisement for Douglas World Air Cruisers and the Liberty motor.

United States Air Stamps Threatened

THE deletion of an item of \$1,500,000 from the Post Office Appropriation Schedule, covering the Mail 'Plane service from New York to San Francisco, will involve some considerable delay in the establishment of the proposed regular service from coast to coast. Meanwhile there is no present use for the set of air post stamps introduced last year in connection with the experimental flight, and it is unlikely therefore that further supplies will be printed for the time being.

New Hungarian Air Stamps

THE latest air post stamps of Hungary are now to hand in a striking symbolical design showing a winged Spirit of the Air floating over Budapest, with the Blue Danube winding beneath. Surface printed in oblong format by the Hungarian State Printing Works, they come in four denominations, viz., 100, 500, 1,000 and 2,000 korona, uniformly inscribed "MAGYARORZAG."

Vienna-Zurich Cachet

I HAVE been shown an interesting flown card carried on the inaugural flight of the Vienna-Zurich Service on April 24, franked with ordinary Austrian postage stamps, and bearing in addition to the word "FLUGPOST" in large capitals across the foot of the card, an oblong cachet struck in violet ink, enclosing the following inscription:—

Mitgeflogen auf der Rundflügen über Wien.
Technische Werkstätten Ges. m.b.h.
Wien I. Preyung 3. Tel. 14311, 19095, 19245,
Mit Fokker F.III.

The card, which is impressed on the reverse side with the "Zurich flug-post" mark, apparently made the round trip between the two cities before being delivered to its addressee.

Baghdad-Cairo

OFFICIAL correspondence conveyed over this route is now franked with a new type of circular cachet consisting of a double-lined circle enclosing the words "AIR MAIL" in large capitals across the diameter and with the inscription "General Headquarters—British Forces in Iraq" reading round the circumference, the whole being struck in violet.

Ordinary letters despatched in the opposite direction (Cairo-Baghdad) by air have the designation "Air Mail" printed on them, with an Arabic equivalent beneath.

Via Air Post from Wembley

AN enterprising "Aerosemist" seized upon the opportunity offered by the opening of the British Empire Exhibition on April 23 to despatch several letters franked by the new British commemorative stamps by air post to friends abroad. I have seen one, received in Paris on the following day, which has a rubber stamped inscription reading—

23.4.24

B.E. EXHIBITION
by Air Mail Croydon-Paris.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS

On May 18, three important competitions will be held on the Paddington and District Aero Club Ground at Sudbury, as follows:—

No. 1.—The "Weston Challenge Cup," open to all. This is a Duration Competition for Fusilage Gliders.

No. 2.—The "Model Engineer, No. 1, Challenge Cup," open to all. This is a Rise off ground Competition for Fusilage Models (Rubber Driven).

No. 3.—The K. and M.A.A. Challenge Cup, open to all. This is a competition for the longest flight and general stability of rubber-driven Fusilage Models.

For further particulars, apply to the Competition Secretary, Mr. C. Bayard Turner, 27, Ouseley Road, Balham, S.W.12.

On May 25, there will be a meeting on Parliament Hill for the general improvement of Records, etc., at 11 a.m.

A. E. JONES, Hon. Sec.

IMPORTS AND EXPORTS, 1923-1924.

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25, 1912; for 1912 and 1913, see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; for 1922 see "FLIGHT" for January 18, 1923; and for 1923, see "FLIGHT" for January 17, 1924.

	Imports.		Exports.		Re-Exports.	
	1923.	1924.	1923.	1924.	1923.	1924.
Jan. ..	466	2,213	60,079	52,239	280	2,219
Feb. ..	641	920	120,236	26,349	3,040	335
Mar. ..	589	11,381	71,945	34,113	689	509
Apr. ..	8,508	373	167,757	56,998	462	6,014
	10,204	14,887	420,017	169,699	4,471	9,077

PUBLICATIONS RECEIVED

Aeronautical Research Committee. Reports and Memoranda No. 882. (Ae. 113.) An Investigation of Downwash in the Slipstream (Part I). By L. F. G. Simmons and E. Ower. February, 1924. London: H.M. Stationery Office, Kingsway, W.C.2. Price 1s. net.

Canadian Patent Office Record. April 15, 1924. Vol. LII, No. 16. Patent and Copyright Office, Ottawa, Canada. Price 10 cents.

Rendiconti Tecnici della Direzione Superiore del Genio e delle Costruzioni Aeronautiche. April 15, 1924. Vol. XII, No. 2. Commissariato dell'Aeronautica Intendenza Generale. R. Accademia Nazionale dei Lincei, Rome.

Notiziario di Aeronautica. No. 4. April, 1924. Commissariato dell'Aeronautica. R. Accademia Nazionale dei Lincei, Rome.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1922

Published May 15, 1924

34,381. W. G. ROBERTSON. Revolving cyl. I.C. engines. (214,295.)

APPLIED FOR IN 1923

Published May 15, 1924

498. G. E. TENNISON. Combination helicopter aeroplane. (214,305.)

1,710. W. TAIT, jun., and H. B. McLEOD, jun. Apparatus for steering aircraft, etc. (214,332.)

1,985. A. J. FORTESCUE. Flying-machines. (200,057.)

FLIGHT

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C. 2.

Telegraphic address: Truditur, Westcent, London.

Telephone: Gerrard 1828.

SUBSCRIPTION RATES

"FLIGHT" will be forwarded, post free, at the following rates:—

UNITED KINGDOM				ABROAD*			
	s.	d.		s.	d.		
3 Months, Post Free ..	7	7	3 Months, Post Free ..	8	3		
6 " " " ..	15	2	6 " " " ..	16	6		
12 " " " ..	30	4	12 " " " ..	33	0		

These rates are subject to any alteration found necessary under abnormal conditions and to increases in postage rates.

* Foreign subscriptions must be remitted in British currency.